APPENDIX C

TECHNICAL SPECIFICATIONS

C.1 SHAFT HEADFRAME AND COLLAR EQUIPMENT DEMOLITION

1 GENERAL TECHNICAL REQUIREMENTS

1.1. Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM (Drawing #MT13-CL-01). The mine site is 1/2 mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine remains on standby after mining operations were suspended in 1990 due to the depressed uranium market. The mine extracts uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot deep shafts from the mine surface. The shafts are located in the Service and Support Area (Drawings MT13-CL-02 and -04) .

The included work consists of demolition of the two shaft headframes and materials within the shaft collars. The required work includes:

- Mobilization and demobilization of contractor's equipment
- Preparation of the work area
- Protection of potentially impacted facilities and structures
- De-energizing and removal of electric lines and equipment
- Dropping of both headframes to ground surface
- Cutting and stacking of headframe structural steel into lengths up to 40 feet
- Disposal of non-salvaged demolition debris in shafts below subcollar level.
- Removal of all fittings, equipment, and internal structures in the shafts from collar down to subcollar level, and disposal of selected non-rigid debris in shafts below subcollar level.
- Stacking of selected salvaged structural steel within 50 feet of each shaft, for use by others in shaft plug construction

The contractor may salvage the structural steel and other rigid materials for sale and re-use offsite, except for the selected structural steel needed for construction of the shaft plugs (Drawings #MT13-CL-05 and -06).

The work is represented in Drawings:

MT13-CL-01 Title Sheet

MT13-CL-02 Closeout Plan Index Sheet

MT13-CL-03 Gamma and Soil Radium Sample Locations

MT13-CL-04 Facility Disposition Plan

1.2. Site Survey

Prior to mobilizing to the mine, the Contractor shall perform its own survey of the headframes for the purposes of dimensional and volume measurements, assessment of hazards, and planning the work. The results of this site survey shall be submitted to the Project Manager and to a MSHA or OSHA-qualified safety officer for review and approval before the work begins.

1.3. Site Restrictions

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

1.4. Information on Existing Facilities

The production shaft is 24 feet in diameter below subcollar level with a headframe approximately 180 feet tall. The manway/ vent shaft is 14 feet in diameter below subcollar level with a headframe approximately 75 feet tall. Headframe elevation views of the 24-foot shaft headframe as well as shaft collar general arrangement, plan and section construction drawings are available for contractor use in planning demolition. However, no construction drawings of the 14-foot shaft headframe are available. Attached to this specification are inventories of structural steel in headframes by RGR, Tables C.1.1 and C.1.2. Most buildings close to the shafts will remain for post-mining land use and must be protected from damage during headframe demolition (see Drawing MT13-CL-04). Both shafts have reinforced concrete collars that will remain in place and will not be demolished.

1.5. Codes, Standards, and Regulatory Requirements

All work must be performed according to OSHA and/ or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

The individual responsible for planning, placing and detonating explosives used in headframe demolition must have a current Blaster's Certificate, recognized in the State of New Mexico.

The contractor shall implement the applicable requirements for worker fall protection including, but not limited to, 29 CFR 1926:

- 1926.501, Duty to have fall protection
- 1926.502, Fall protection systems criteria and practices
- 1926.503, Training requirements (Fall Protection)
- 1926.760, Steel Erection (Fall protection)
- 1926.800, Underground construction
- 1926.1051, General requirements (Stairways and Ladders)

1.6. Site Investigation Reports & Data

Not applicable.

1.7. Health & Safety Practices

1.7.1. Health & Safety Practices

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, Level D PSE is required. All contractor personnel and others within the contractor' working area must be equipped with the required PSE and must comply with the requirements cited in section 1.5.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove anyone not complying with those requirements from the contractor's working area.

1.7.2. Site Safety & Emergency Communication

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. Cell phone service is not reliable at the mine site.

1.7.3. Radiological Materials

The contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

1.8. Field Engineering and Surveying

Not Applicable

1.9. General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer

- Demolition Plan – including methods and equipment to be used, names and qualifications of key personnel, and schedule
- Blasting Plan – if needed

1.10. Construction Facilities and Field Office

1.10.1. Site Access, Field Office, Storage, and Maintenance

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Coop**.**

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

Explosive materials may not be stored on site. If needed, explosives shall be brought to the site, placed, and ignited in one continuous operation. If left in place between work shifts, the explosives will be placed under protection as required by federal and state law.

1.10.2. Protection of Existing Facilities

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use (Drawing MT13-CL-04). Any damage or loss of use shall be repaired or compensated at the contractor's cost.

1.10.3. Temporary Environmental Controls

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to,

- Fuels, solvents and lubricants storage
- Surface water diversions and erosion control materials
- Dust suppression chemicals containers
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife.

No firearms may be brought on the mine site.

2 SITE CONSTRUCTION

2.1 Site Preparation

The contractor shall de-energize and remove all electrical equipment and lines on the shaft headframes, in the shafts, and in the shaft tunnels from the subcollars to the first doors in the shaft tunnels.

If the contractor plans to drop the headframes, using explosives and/ or heavy equipment to topple them, the contractor shall remove all utilities and above-grade structures in the planned line of fall of the headframes, plus at least 100 feet to each side and beyond the lines of fall. Blasting mats or other protective measures shall be applied over any structures within the potentially impacted zone that cannot be removed.

2.2 Demolition

The contractor shall submit a demolition plan for RGR approval prior to beginning the work. The plan shall include methods and equipment to be used, names and qualifications of key personnel, and schedule. The plan shall also describe any salvage intended by the contractor, including materials and expected values.

2.2.1. Blasting

If the contractor uses blasting to bring down the headframes, it shall prepare a blasting plan. The blasting plan shall include description of types and amount of explosives, delays, initiating methods and equipment, protective measures, and personnel. The plan shall include a figure illustrating the placement of explosives. The person who prepares and executes the plan shall have a current Blaster's Certificate.

2.2.3. Other Methods

Other methods of demolition shall be described in the demolition plan required under section 1.9.

2.2.3. Separation of Salvaged Steel for Shaft Plugs

The contractor shall cut salvaged steel from each headframe for use by others for construction of the shaft plugs. See drawings MT13-CL-05 and -06 for quantities. The salvaged steel shall be selected, cut, and handled so that each beam is straight and intact along the entire required length, and the ends shall be cut square. The salvaged steel shall be stacked within 100 feet of each shaft.

2.2.4. Disposal and Salvage

Demolition debris in addition to steel salvaged for shaft plugs shall be salvaged for off-site use or recycling as the first priority. At the time of closeout, market conditions will indicate what materials have re-sale or salvage value. Materials that can be economically re-used or recycled will be stacked separately until they can be removed from the site.

Demolished materials not to be salvaged for off-site use or use in the shaft plugs shall be reduced in size sufficiently to be dropped down the shaft and free-fall to the bottom, taking into consideration the cage guides, ducts, and other structures remaining in place below the subcollar. Only non-rigid materials such as wood and rope guides, cables, ducts and flexible sheet metal may be dropped in the shaft. Rigid plate, metal grids, structural steel and similar hard materials shall be removed from the shafts and headframes for re-use or salvage.

The contractor shall dispose of demolition debris allowed to free-fall below the subcollar in such sizes and shapes that this debris will not become entangled with shaft structures below the subcollars nor be capable of damaging the shaft liner below subcollar level in each shaft. The nominal distance between cage guides, the narrowest opening in the center of the shaft, is 6 feet in the 14-foot diameter shaft and 13 feet in the 24-foot diameter shaft.

The contractor shall submit a description of disposal methods to be used that will be protective of the shaft liner.

3 GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

3.1 Reviews

Not applicable

3.2 Inspection Reports

Contractor shall record in writing the structural steel salvaged for use in shaft plug construction as required in section 2.2.3. RGR shall inspect the salvaged steel and confirm or correct the contractor's written records as the basis for payment.

3.3 Test Reports

Not applicable

4 FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

4.1 Substantial Completion

The work will be substantially complete when all work required under sections 2 and 3 has been completed by the contractor and accepted by RGR.

4.2 Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

4.3 Final Payment

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

Table C.1.1 Headframe 14' SHAFT - Structural Steel		
H,W, T in inches; L in feet		
Description	Description	Description
I BEAMS	**ANGLE IRON**	**T IRON**
H x W x T x L	H x W x T x L	H x W x T x L
30 x 10 x 1 x 38	4 x 6 x 1/2 x 712	8 x 8 x 3/8 x 64
36 x 12 x 1 x 19	3 1/2 x 5 x 1/2 x 252	7 x 7 x 1/2 x 84
24 x 8 x 3/4 x 19		
30 x 10 x 3/4 x 33		
24 x 9 x 5/8 x 17		
14 x 8 x 5/8 x 28		
16 x 7 x 5/8 x 106		
25 x 7 x 5/8 x 72		
13 1/2 x 8 x 1/2 x 324		
12 x 8 x 1/2 x 189		
10 x 8 x 1/2 x 200		
6 x 4 x 1/2 x 120		
16 x 7 x 1/2 x 17		
24 x 7 x 1/2 x 20		
8 x 6 1/2 x 1/2 x 120		
6 x 8 x 1/2 x 20		
14 x 6 1/2 x 1/2 x 38		
14 x 7 x 1/2 x 90		
8 x 8 x 1/2 x 44		
8 x 7 x 1/2 x 20		
14 x 6 x 1/2 x 148		
10 x 7 x 1/2 x 68		
24 x 7 x 3/8 x 38		

Table C.1.2 24' SHAFT Headframe Structural Steel		
H. W, T in inches; L in feet		
Description	Description	Description
I BEAMS	**I BEAMS**	**T IRON**
H x W x T x L	H x W x T x L	H x W x T x L
37 x 16 x 1 1/2 x 25	14 x 10 x 3/4 x 8	8 x 8 x 1/2 x 204
14 1/2 x 14 5/8 x 1 x 552	30 x 10 1/2 x 3/4 x 50	
14 x 12 x 3/4 x 330	30 x 8 x 3/4 x 50	
10 x 8 x 1/2 x 668	14 x 7 x 3/4 x 37	
10 x 5 1/2 x 1/2 x 288	16 x 7 x 3/4 x 35	Description
16 x 8 x 1/2 x 162	24 x 9 x 3/4 x 38	**ANGLE IRON**
8 x 6 x 1/2 x 40	21 x 8 x 3/4 x 132	H x W x T x L
14 x 8 x 1/2 x 134	22 x 8 x 5/8 x 66	
14 x 6 3/4 x 1/2 x 80	14 x 8 x 5/8 x 68	6 x 6 x 1/2 x 2423
14 x 6 x 1/2 x 20	24 x 7 x 5/8 x 225	4 x 3 x 1/2 x 552
14 x 7 x 1/2 x 164	14 x 7 x 5/8 x 188	4 x 6 x 1/2 x 616
10 x 6 x 1/2 x 70	8 x 7 x 5/8 x 24	6 x 6 x 3/8 x 184
8 x 8 x 1/2 x 8	16 x 7 x 5/8 x 75	6 x 8 x 5/8 x 80
16 x 6 x 1/2 x 25	8 x 5 x 3/8 x 6	6 x 6 x 5/8 x 64
24 x 6 x 1/2 x 50	6 x 6 x 3/8 x 128	
18 x 7 x 1/2 x 25	10 x 8 x 3/8 x 174	
6 x 6 x 1/2 x 248	10 x 6 x 3/8 x 30	
8 x 6 1/2 x 1/2 x 32		Description
36 x 12 x 1 x 288		**C - CHANNEL**
36 x 14 x 1 x 50		H x W x T x L
36 x 16 x 1 x 25	Description	
14 x 8 x 3/4 x 200	**TUBING**	2 1/2 x 10 x 3/8 x 238
36 x 12 x 3/4 x 208	H x W x T x L	2 1/4 x 8 x 3/8 x 370
24 x 7 x 3/4 x 50		2 1/4 x 8 x 1/2 x 72
24 x 8 x 3/4 x 25	6 x 6 x 1/2 x 255	3 x 12 x 1/2 x 124
12 x 8 x 3/4 x 40	4 x 6 x 1/2 x 312	

C.2 BUILDINGS AND PIPELINE DEMOLITION

1 GENERAL TECHNICAL REQUIREMENTS

1.1. Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM (Drawing #MT13-CL-01). The mine site is 1/2 mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine remains on standby after mining operations were suspended in 1990 due to the depressed uranium market. The mine extracts uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot deep shafts from the mine surface. The mine surface facilities are located on 285.6 acres, of which approximately 148 acres are disturbed land and the remaining 137.9 acres are undisturbed. The disturbed land consists of:

- Support (Service and Support) Facilities
- Mine Water Treatment Area
- Treated Water Discharge Pipeline
- Ore Stockpile
- Waste Pile
- Storm Water Retention Ponds (2)
- Access Road

The included work consists of demolition of buildings that will have no post-mining use and pipeline that will be salvaged. Other building and facilities that have post-mining use will not be demolished.

Facilities to be demolished include:

- Glycol Heat Exchanger
- Chlorine Building
- Flocculant Treatment Building
- Barium Chloride Treatment Building
- Ion Exchange Building
- Mine Water Treatment Pond Hydraulic Structures (13)
- Mine Car Rails and Concrete Base for Rail
- Shaft Heater Buildings, Exhaust Fans and Vents
- Cooling Towers
- York Chiller Refrigeration Equipment
- Mine Water Discharge Pipes
- Treated Water Pipeline

Scrap materials from demolition, with the exception of concrete, will be disposed of as scrap or structural elements for off-site sale. The surface landowner shall have the right to retain any demolition

materials, other than concrete, for its own use, including but not limited to on-site use for post-mining applications or for off-site sale. Any demolition materials not retained on site at the written request of the surface landowner prior to demolition shall be removed by the contractor and may be used or sold by the contractor without compensation to RGR or the surface landowner. Subsequent to closeout, removal of remaining salvaged materials from the site will be at the landowners' discretion and cost.

Demolition of these facilities will include the concrete slabs or other foundations. The concrete shall be broken and separated from reinforcement by the contractor, then stockpiled at each location for later recycling by others as riprap in closure of the waste pile. Concrete hydraulic control structures (13) in the mine water treatment ponds shall be demolished and the concrete crushed and stacked for use by others.

The treated water discharge pipeline (Figure C.2-1) is 1/4 to 3/8 inch thick steel pipe. The in-place and spare lengths total approximately 23,000 feet. This pipe shall be removed from the site and sold for re-use or salvage.

The required work includes:

- Mobilization and demobilization of contractor's equipment
- Preparation of the work area
- Protection of potentially impacted facilities and structures
- De-energizing and removal of electric lines and equipment in facilities to be demolished
- Demolition of the buildings listed in the "demolish" column of Table C.2.1.
- Separation and stacking of demolition debris at locations on site designated by RGR.

Any demolition materials other than concrete that are declined in writing by the landowners may be salvaged for sale and re-use offsite by the contractor.

The work is represented in Drawings:

MT13-CL-01 Title Sheet

MT13-CL-02 Closeout Plan Index Sheet

MT13-CL-03 Gamma and Soil Radium Sample Locations

MT13-CL-04 Facility Disposition Plan

1.2. Site Survey

Prior to mobilizing to the mine, the Contractor shall perform its own survey of the facilities to be demolished for the purposes of dimensional and volume measurements, assessment of hazards, and planning the work. The results of this site survey shall be submitted to the Project Manager and to a MSHA or OSHA-qualified safety officer for review and approval before the work begins.

1.3. Site Restrictions

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

1.4. Information on Existing Facilities

Facilities to be demolished include the buildings listed in Table C.2.1, the treated water pipeline shown on Figure C.2-1, mine car rails, mine water discharge pipe, and hydraulic control structures of the mine water treatment ponds represented in Figure C.2-2. Locations of these facilities are shown on Drawing MT13-CL-04. Photographs of facilities to be demolished will be available to the contractor.

1.5. Codes, Standards, and Regulatory Requirements

All work must be performed according to OSHA and/ or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

1.6. Site Investigation Reports & Data

Not applicable.

1.7. Health & Safety Practices

1.7.1. Health & Safety Practices

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, Level D PSE is required. All contractor personnel and others within the contractor's working area must be equipped with the required PSE and must comply with the requirements cited in section 1.5.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove anyone not complying with those requirements from the contractor's working area.

1.7.2. Site Safety & Emergency Communication

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. Cell phone service is not reliable at the mine site.

1.7.3. Radiological Materials

Radiological contamination levels in these facilities do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. These facilities will not require decontamination prior to demolition. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and

environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

1.8. Field Engineering and Surveying

Not Applicable

1.9. General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer
- Demolition Plan – Methods of demolition shall be described in the demolition plan required under section 1.9 including methods and equipment to be used, names and qualifications of key personnel, and schedule.

1.10. Construction Facilities and Field Office

1.10.1. Site Access, Field Office, Storage, and Maintenance

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Coop**.**

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

1.10.2. Protection of Existing Facilities

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use (Drawing MT-CL-04). Any damage or loss of use shall be repaired or compensated at the contractor's cost.

1.10.3. Temporary Environmental Controls

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to,

- Fuels, solvents and lubricants storage
- Surface water diversions and erosion control materials
- Dust suppression chemicals containers
- Sanitary wastes containments
- Trash containers

- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife.

No firearms may be brought on the mine site.

2 SITE CONSTRUCTION

2.1 Site Preparation

The contractor shall de-energize and remove all electrical equipment and lines in facilities to be demolished.

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations.

2.2 Demolition

The contractor shall submit a demolition plan for RGR approval prior to beginning the work per section 1.9. The plan shall include methods and equipment to be used, names and qualifications of key personnel, and schedule. The plan shall also describe any salvage proposed by the contractor, including materials and expected values. Facilities to be demolished include:

- Shaft heating buildings
- Exhaust Fans and Vents
- Glycol Heat Exchanger
- Cooling Towers
- York Chiller Refrigeration Equipment
- Chlorine Building
- Flocculant Treatment Building
- Barium Chloride Treatment Building
- Ion Exchange Building
- Mine Water Discharge Pipes
- Treated Water Pipeline
- Mine Water Treatment Pond Hydraulic Structures
- Mine Car Rails and Concrete Base for Rail

2.2.1. Building Removal

The shaft vents and fans, the heating buildings, and the glycol heat exchanger shall be demolished first, so that these structures are removed before shaft headframe demolition (by others) begins.

The buildings shall be removed by mechanical or manual methods; no explosives may be used. Except for the chlorine building, which is a concrete block, the buildings are steel frame with metal siding and roofs.

No asbestos is known to be present in these facilities. However, the contractor shall perform inspections it considers necessary to confirm that asbestos is not present.

2.2.2. Debris Sizing and Stacking

The contractor shall prepare demolition debris for disposal. The contractor shall reduce the size of debris and sort it sufficiently for it to be classified and stacked by material type and potential re-use or salvage. With prior approval of RGR, uncontaminated non-rigid materials (other than concrete, structural steel or metal siding/roofing) that have no salvage value may be reduced in size and dropped down the shafts and free-fall to the bottom, taking into consideration the cage guides, ducts, and other structures remaining in place below the subcollar. The nominal distance between cage guides, the narrowest opening in the center of the shaft, is 6 feet in the 14-foot diameter shaft and 13 feet in the 24-foot diameter shaft.

Demolition debris other than concrete shall be cut, hauled, and stacked according to shape (e.g.; beams, sheet metal) in locations east of the waste pile as determined by RGR. Debris shall be reduced in size to fit into the likely transport vehicle for removal from the site, but in any case not longer than 40 feet.

2.2.3. Concrete Debris

The contractor shall demolish the concrete in floor slabs of demolished buildings, pond hydraulic control structures, ore bins next to the 24-foot shaft, aprons beyond the shaft collars, and subgrade of mine car rails. The concrete shall be broken into maximum 24-inch size and stacked at the demolition locations for subsequent collection and use by others. Scrap steel from the hydraulic control structures may be placed in the pond basins.

2.3 Treated Water Pipeline

The treated water discharge pipeline is 1/4 to 3/8 inch thick steel pipe. The in-place and spare lengths total approximately 23,000 feet. The pipeline extends from the mine water treatment area approximately 4.3 miles northward to the outfall at San Lucas Canyon. The pipeline runs roughly parallel to, and is accessible from, NM 605 (Figure C.2-1). The contractor shall remove the pipe from the site and sell for re-use or salvage.

The contractor shall use methods for cutting, removal and transport of the pipe in pieces of uniform length that preserve the structural and hydraulic integrity of each piece. Prior to removing any pipeline materials, the contractor shall complete a written agreement with RGR, or its successor in interest, regarding the salvage value of the pipe materials.

Ground disturbances created by accessing and removing the pipeline shall be minimized to the extent practicable. All such disturbances including fence cuts, removal of vegetation and equipment tracks in the soil shall be continuously repaired during pipe removal so that not more than one mile of disturbance accumulates before repairs in fences and soil grade are begun on the disturbed ground.

Revegetation ground preparation and reseeding must be completed on disturbed ground not more than one month after pipeline removal is complete. Revegetation shall conform to the requirements in Technical Specification C.5.

At each cut location along the pipe, lines at least 1.0 feet long shall be made with light color paint in each of the upper two quadrants of the pipe before the cut is made. Each section of pipe shall be identified by the same paint in numbers, not less than 6 inches high, applied along the top of the pipe and parallel to the pipe length. The pipe numbers shall start with 0001 at the south end.

3 GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

3.1 Reviews

Not applicable

3.2 Inspection Reports

Contractor shall record in writing the lengths of each pipe section removed, as well as the unique number painted on each pipe section in its serial order in the pipeline from south to north. This record shall become the official inventory of the removed pipe and shall be the basis for both salvage value and contractor compensation. This record shall be subject to review and independent verification by RGR.

3.3 Test Reports

Not applicable

4 FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

4.1 Substantial Completion

The work will be substantially complete when all work required under sections 2 and 3 has been completed by the contractor and accepted by RGR.

4.2 Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

4.3 Final Payment

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

Table C.2.1 Building Inventory

				Disposition at Closeout	
Building Name	**Building Type**	**Dimensions**	**Volume, ft^3**	**Demolish**	**Retain for Owner**
Compressor Building	Steel frame and siding	40'4"x40'2"x16'	25921		X
York Chiller (Chill Water) Building	Steel frame and siding	100'x50'x30'	150000	Equipment only	X
Pump Building (Chill Water Pump House)	Steel frame and siding	40'x24'x16'	15360		X
Chlorine Building	Concrete Block	23'x50'6"x20'	23230	X	
Shaft Heating Building	Steel frame and siding	50'x30'x16'	24000	X	
Glycol Heat Exchanger	Steel frame and siding	50 x 30 x 16	24000	X	
Hoist House	Steel frame and siding	162'x120'x40'	777600		X
Cooling Tower	Steel frame and siding	75 x 25 x 25	46875	X	
Guard House (Security Building)	Steel frame and siding	63'x20'6"x16'	20664		X
Fire Equipment Building (Fire House)	Steel frame and siding	27'x24'x16'	10368		X
Service Building (Office and Warehouse)	Steel frame and siding	194'x138'x24'	642528		X
Car (Maintenance) Shop	Steel frame and siding	150'x100'x30'	450000		X
Carpenter Shop	Steel frame and siding	45'x24'x16'	17280		X
Electrical Building	Steel frame and siding	62'x30'x16'	29760		X
Water Treatment and Boiler Building	Steel frame and siding	62'x50'x16'	49600		X
Core Storage Building	Steel frame and siding	100x38'x16'	60800		X
Fan Shop	Steel frame and siding	40 x 30 x 12	14400		X
Storage Building	Steel frame and siding	28'x30'x16'	13440		X
Flocculant Treatment Facility	Steel frame and siding	30'x23'x12'	8280	X	
Barium Chloride Treatment Facility	Steel frame and siding	40'x25'x16'	16000	X	
Ion Exchange Plant	Steel frame and siding	140'x70'x40'	392000	X	

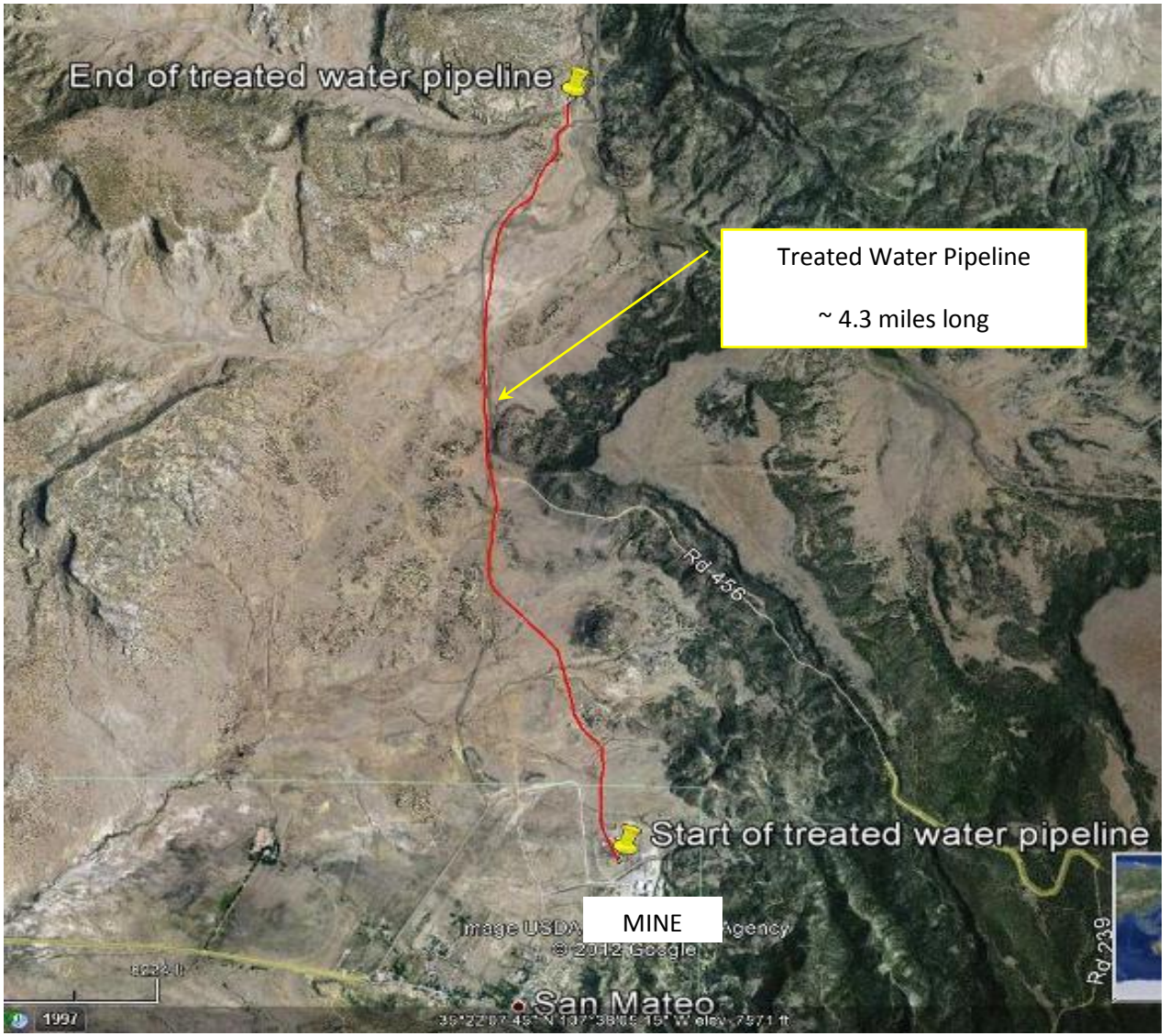

Figure C.2-1 Treated Water Pipeline

Figure C.2-2 Hydraulic Control Structure on Mine Water Treatment Pond #2 (existing April 2013)

C.3 SHAFT PLUGGING AND BACKFILL

1 GENERAL TECHNICAL REQUIREMENTS

1.1. Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM (Drawing MT13-CL-01). The mine site is 1/2 mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine remains on standby after mining operations were suspended in 1990 due to the depressed uranium market. The mine extracts uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot deep shafts from the mine surface. The water level in the shafts is approximately 820 feet below collar elevation.

The included work consists of disposing of selected demolition debris in the shafts below subcollar level, construction of a plug in each shaft at subcollar level, backfilling the collar and connected openings, and placement of concrete markers on the shaft caps.

Selected, non-rigid scrap materials from demolition of surface facilities and the headframes, with the exception of concrete, will be disposed of in the shafts by others prior to plugging.

The required work includes:

- Mobilization and demobilization of contractor's equipment,
- Preparation of the work area,
- Disposal of non-rigid, non-structural demolition debris from within the shaft collars,
- Placement of salvaged structural steel as the primary structural component of the shaft plugs,
- Mixing and placement of light weight concrete, cementitious slurry, and cap concrete
- Site cleanup and removal of work debris.

The work is represented in Drawings:

MT13-CL-01 Title Sheet

MT13-CL-02 Closeout Plan Index Sheet

MT13-CL-05 Shaft Closure Manway Vent

MT13-CL-06 Shaft Closure Production Shaft

1.2. Site Survey

The Contractor shall perform its own survey of the dimensions of the shaft collar, subcollar, and connected openings above subcollar level for the purposes of dimensional and volume measurements, assessment of hazards, and planning the work. This survey shall include an inventory of material in the shaft collars that can be dropped into the shafts and material that must be removed from the shafts for salvage (see section 2.2). The results of this site survey shall be submitted to the Project Manager and to a MSHA or OSHA-qualified safety officer for review and approval before the work begins.

1.3. Site Restrictions

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

The contractor's work area shall be enclosed with temporary fencing, selected and provided by the contractor, to restrict access to the shafts to authorized personnel only. The contractor shall prohibit entry to anyone not trained and authorized to enter the enclosed area or accompanied at all times by an authorized person.

1.4. Work Performed by Others

Prior to the commencement of this work, the shafts headframes and shaft collar structures and equipment will be removed by others. Structural steel and other materials from demolition of the headframes will have been cut by others to fit in the shaft and stacked near each shaft. Structural steel to be used for construction of the shaft plugs (Drawings MT13-CL-05 and -06) will have been stacked separately from other steel that will be shipped offsite for salvage.

1.5. Codes, Standards, and Regulatory Requirements

All work must be performed according to OSHA and/ or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

The contractor shall implement the applicable requirements for worker fall protection including, but not limited to, 29 CFR 1926:

- 1926.501, Duty to have fall protection
- 1926.502, Fall protection systems criteria and practices
- 1926.503, Training requirements (Fall Protection)
- 1926.760, Steel Erection (Fall protection)
- 1926.800, Underground construction
- 1926.1051, General requirements (Stairways and Ladders

1.6. Site Investigation Reports & Data

Not applicable.

1.7. Health & Safety Practices

1.7.1. Health & Safety Practices

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, at a minimum Level D PSE is required. In addition, safety measures required under section 1.5 and elsewhere in federal and state regulations shall be implemented.

All contractor personnel and others within the contractor' working area must be equipped with the required PSE and must comply with the requirements cited in section 1.5.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove anyone not complying with those requirements from the contractor's working area.

1.7.2. Site Safety & Emergency Communication

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. Cell phone service is not reliable at the mine site.

1.7.3. Radiological Materials

Radiological contamination levels in these facilities do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. These facilities will not require decontamination prior to demolition. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

1.8. Field Engineering and Surveying

The contractor shall perform surveys and measurements as required under section 1.2 to verify dimensions of work spaces and construction materials described in this specification and the referenced drawings (MT13-CL series) as well as the 1974 Dravo design drawings, which will be available to the contractor for planning the work.

1.9. General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer
- Shaft Plug and Backfill Construction Plan – Method of construction shall be described, including methods and equipment to be used, names and qualifications of key personnel, and schedule.

1.10. Construction Facilities and Field Office

1.10.1. Site Access, Field Office, Storage, and Maintenance

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Coop**.**

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

1.10.2. Protection of Existing Facilities

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use (Drawing MT13-CL-04). Any damage or loss of use shall be repaired or compensated at the contractor's cost.

1.10.3. Temporary Environmental Controls

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to,

- Fuels, solvents and lubricants storage
- Surface water diversions and erosion control materials
- Dust suppression chemicals containers
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife.

No firearms may be brought on the mine site.

2 SITE CONSTRUCTION

2.1 Site Preparation

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations. The contractor shall stage and operate its equipment to allow setback distances from the shaft collars that are appropriate for the selected equipment size, weight, and operating radius. The contractor shall prepare its working area and equipment locations to minimize traffic or materials next to the shaft collars.

2.2 Debris Disposal

Prior to disposing of any demolition debris into the shafts, the contractor shall remove structures and equipment within the shaft collars that would obstruct the free-fall of materials discharged into the shafts at the collar. Materials that can be allowed to free-fall are rope and wooden guides, ductwork, electrical cable, pipe and conduit. Material that shall be removed includes sheet metal, fencing, and structural steel that would obstruct either debris discharge to the shafts or shaft plug construction. The referenced Dravo drawings describe some of these features, but the contractor shall perform its own survey and inventory as required under section 1.2.

At the time of closeout, market conditions will indicate what materials have re-sale or salvage value. Materials that can be economically re-used or recycled will be stacked separately until they can be removed from the site.

The contractor shall dispose of demolition debris allowed to free-fall below the subcollar in such sizes and shapes that this debris will not become entangled with shaft structures below the subcollars nor be capable of damaging the shaft liner below subcollar level in each shaft. The nominal distance between cage guides, the narrowest opening in the center of the shaft, is 6 feet in the 14-foot diameter shaft and 13 feet in the 24-foot diameter shaft. The contractor shall dispose of demolition debris in the mine shafts so that each piece is positioned before release to free-fall without hitting equipment, such as ductwork, cage guides, or other obstacles remaining in place below subcollar level.

The contractor shall submit a description of disposal methods to be used that will be protective of the shaft liner.

2.3 Shaft Plug Construction

Both the 24 ft diameter production or haulage shaft and the 14 ft diameter manway/ ventilation shaft will be closed in the same way, illustrated on Drawings MT13-CL-05 and -06, in the following sequence after the headframes and collar structures are removed (by others), the subcollar space has been freed of obstacles per section 2.2.1.

Selected structural steel I-beams and scrap metal plate, salvaged from headframe and other demolition, shall be welded at ground surface in sections consisting of two or more beams with scrap plate. The

plate of each section shall be shaped to fit flush with, or overlap, the plate of the next adjacent section. Each section shall be of a size that can be lowered into the shaft. Each section shall be lowered from ground surface to the subcollar and set onto the shaft subcollar to form the first layer of the support platform for the shaft plug and backfill. A second layer of I-beams shall be placed on top of, and perpendicular to, the lower layer to form an orthogonal support system for the shaft plug and backfill.

A plug of light-weight concrete meeting the requirements of ASTM C 330 shall be poured to encapsulate the platform steel. The concrete shall have an in-place density of 90-115 pcf and a minimum compressive strength of 2500 psi. The concrete shall be placed in not more than three lifts. The first lift shall fully encapsulate and cover the steel beams and shall be vibrated until the concrete level reaches the top of the second layer of I-beams. Successive lifts shall be not more than 1.0 feet thick.

The shaft plug concrete shall be allowed to cure for not less than 28 days before the shaft backfill is placed.

2.4. Shaft Backfill

The remainder of the shaft, as well as connecting tunnels and raises, shall be backfilled with a cementitious slurry of soil, Portland cement, fly ash, and water. The contractor shall determine proportions of these components using test batches of the available materials, for acceptance by RGR before placement. The selected mix shall have a cured compressive strength of not less than 75 pcf.

Sandy waste rock material from the waste pile may be substituted for the soil fraction of the mix.

2.5 Shaft Cap and Marker

The remaining space at the top of the shaft backfill, from top of slurried backfill to adjacent ground surface, shall be capped with not less than 1.0 feet of light-weight concrete, with a marker monument extending above ground surface. The marker monuments shall be pre-cast 2500-psi concrete, at least two feet high and four feet wide and long, with a hand finished top surface. Both shaft markers shall be inscribed with “Mt. Taylor Mine (name) Shaft, Closed (date)”.

3 GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

3.1 Reviews

Not applicable

3.2 Daily Reports

Contractor shall prepare a written daily report of each working day. This report shall include a record of the dimensions of the shaft plug components, the volumes of materials used, and any deviations from the drawings or this specification necessitated by conditions encountered. This record shall be subject to review and independent verification by RGR.

3.3 Test Reports

At least one test cylinder shall be cast for each lift of light-weight concrete poured. The contractor shall have each cylinder tested for density (unit weight) and unconfined compressive strength. Records of test cylinder tests shall be submitted to RGR.

4 FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

4.1 Substantial Completion

The work will be substantially complete when all work required under sections 2 and 3 has been completed by the contractor and accepted by RGR.

4.2 Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

4.3 Final Payment

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

C.4 EARTHWORK

1 GENERAL TECHNICAL REQUIREMENTS

1.1 Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM (Drawing MT13-CL-01). The mine site is 1/2 mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine remains on standby after mining operations were suspended in 1990 due to the depressed uranium market. The mine extracts uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot deep shafts from the mine surface. The mine surface facilities are located on 285.6 acres, of which approximately 148 acres are disturbed land and the remaining 137.9 acres are undisturbed. The disturbed land consists of:

- Support (Service and Support) Facilities
- Mine Water Treatment Area
- Treated Water Discharge Pipeline - (most beyond the mine surface area)
- Ore Pad
- Waste Pile
- Storm Water Retention Ponds (2)
- Access Road

The included work consists of excavation, hauling, placement, and compaction of soil and rippable rock within the mine area for the purposes removing contaminated soil, stabilizing slopes, and covering mine waste containment structures.

The required work includes:

- Mobilization and demobilization of contractor's equipment,
- Preparation of the work area,
- Excavation of soil contaminated with low levels of radium and uranium originating from the underground mine and mine water,
- Disposal of contaminated soil in the existing mine water treatment pond, the waste rock pile, or the shafts,
- Reshaping of the waste rock pile
- Reducing rock slopes
- Backfilling of the mine water treatment ponds,
- Placement of clean soil cover over the waste rock pile and the mine water treatment ponds, and
- Finish grading of disturbed ground within the mine permit area.

The work is represented in Drawings:

MT13-CL-01 Title Sheet

MT13-CL-02 Closeout Plan Index Sheet

MT13-CL-03 Gamma and Soil Radium Sample Locations

MT13-CL-04 Facility Disposition Plan

MT13-CL-07 Final Grading Plan Mine Water Treatment Pond and Ore Stockpile Area

MT13-CL-08 Typical Sections Mine Water Treatment Pond Infill

MT13-CL-09 Final Grading and Cover Plan South Waste Rock Pile Area

MT13-CL-10 Final Grading and Cover Sections South Waste Rock Pile Area

MT13-CL-13 Final Site Grading Plan

1.2 Site Survey

The Contractor shall perform its own survey or calculations to determine depths and volumes of excavated soil, field control for line and grade, and depths and volumes of soil placed. The results of this site survey shall be submitted to the Project Manager for review and approval of work performed and for verification of payment quantities.

1.3 Site Restrictions

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

1.4 Work Performed by Others

Prior to the commencement of this work, the shaft headframes, hydraulic control structures, selected buildings, the treated water pipeline, mine car rail, and mine water discharge pipe will be removed and the shafts will be plugged and backfilled by others.

1.5 Codes, Standards, and Regulatory Requirements

All work must be performed according to OSHA and/ or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

1.6 Site Investigation Reports & Data

RGR has conducted site investigations to characterize the waste rock pile materials, soil contamination, and geotechnical properties of on-site soil. Reports of these studies and related data are included in Appendix D of the Mt. Taylor Mine Closeout/ Closure Plan.

1.7 Health & Safety Practices

1.7.1 Health & Safety Plan

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Site Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, Level D PSE is required. In addition, safety measures required under section 1.5 and elsewhere in federal and state regulations shall be implemented.

All contractor personnel and others within the contractor' working area must be equipped with the required PSE and must comply with the requirements cited in section 1.5.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove from the contractor's working area anyone not complying with those requirements.

1.7.2 Site Safety & Emergency Communication

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. Cell phone service is not reliable at the mine site.

1.7.3 Radiological Materials

Radiological contamination levels on the mine site do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

1.8 Field Engineering and Surveying

The contractor shall perform surveys and measurements as required under section 1.2 to verify dimensions, lines and grades, and construction materials described in this specification and the referenced drawings (MT13-CL series).

1.9 General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer
- Contaminated Soil Excavation Plan – Methods for excavating, hauling, and placing contaminated soil shall be described including measures to be taken to control spillage and fugitive dust release during handling. The plan shall also describe equipment to be used, names and qualifications of key personnel, and schedule.
- Soil Cover and Grading Plan – Method of construction for excavation, hauling, placing and compacting clean fill soil shall be described, including equipment to be used, names and qualifications of key personnel, and schedule. The plan shall also include fugitive dust control and finish line and grade control.

1.10 Construction Facilities and Field Office

1.10.1 Site Access, Field Office, Storage, and Maintenance

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Coop.

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

1.10.2 Protection of Existing Facilities

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use (Drawing MT13-CL-04). Any damage or loss of use shall be repaired or compensated at the contractor's cost.

1.10.3 Temporary Environmental Controls

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to,

- Spraying of clean water for dust suppression
- Storage of fuels, solvents and lubricants
- Surface water diversions and erosion control materials
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife.

No firearms may be brought on the mine site.

2 SITE CONSTRUCTION

2.1 Site Preparation

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations.

2.2 Removal of Pond Liner Anchor

The contractor shall remove the HDPE liner system in mine water treatment ponds #1-8 and the ore pad runoff retention pond from the anchor trench and the upper portion of the pond slopes down to at least 2.0 feet below final grade (drawings MT13-CL-07 and -13). Similarly on the ore pad, the liner shall be removed from the anchor trench to at least 1.0 feet below final grade. The liner materials removed in the ponds may be folded over into the ponds before the pond basins are backfilled. The liner material removed on the ore pad shall be disposed into the ore pad runoff retention pond basin.

2.3 Excavation and Disposal of Contaminated Soil

The contractor shall submit a Contaminated Soil Excavation Plan for excavating, excavating, hauling, and disposal of soil containing more than 6.8 pCi/g of Radium 226. RGR will provide field direction for the contractor in determining the lateral extent and depth of excavation required. Drawing MT13-CL-03 represents the existing data on soil radium content and the gamma radiation emanating from that source.

The contaminated soil excavated north of the CR 334 shall be disposed in the mine water treatment pond basins, as directed by RGR. Contaminated soil excavated within the CR 334 right-of-way and on the mine site south of the CR 334 right-of-way shall be disposed of on the waste rock pile.

Contaminated soil shall be placed in lifts not to exceed 1.0 foot loose thickness and spread as needed to fill around obstacles, conform to the final site contours, or limit the design thickness of the entire fill section. Each lift shall be tracked by dozer, CAT D8 or larger, to compact the soil before the next lift is applied.

2.4 Reshaping of the Mine Water Treatment Ponds

The contractor shall reshape the mine water treatment ponds to the configuration shown Drawing MT13-CL-07, less 2.0 feet of cover. In general, pond sediments shall be left within the ponds where they were deposited. Contaminated soil from the pond area shall be placed in each pond basin to establish a slope of approximately 5% from east to west across the fill surface in each pond basin.

The most contaminated soil shall be placed in the lowest position in each pond basin. Soils from the ore pad area east of Pond #1 shall be excavated and placed in the basins of Ponds #1-3 before other contaminated soil is excavated and placed in these and other pond basins. Each lift shall be tracked by dozer, CAT D8 or larger, to compact the soil before the next lift is applied. RGR will provide radiological screening support to guide the contractor in assessment of soil radium content and determination of depth of excavation for soil removal.

2.5 Reshaping of the Waste Pile

The waste rock is mostly cobble-size soft sandstone and sandy soil. Upon, reactivation of the mine, RGR will reshape the existing waste rock pile to 5H:1V slopes. The contractor shall complete whatever reshaping is yet to be completed at the time of mine closeout to achieve the lines and grades shown on Drawing MT13-CL-09 within the limits of available quantities of waste rock and contaminated materials disposed oin the pile.

The contractor shall reshape the waste rock pile from its existing contours to the lines and grades shown on Drawing MT13-CL-09. Waste rock materials beyond the final limit of the waste pile, if any, shall be excavated and placed within the final waste pile footprint. Contaminated soil from the CR 334 right-of-way and the Service and Support area shall be excavated and placed on the waste pile.

The existing mound of soil standing above the rest of the waste pile surface at the southwest corner of the pile is clean shaft muck. It shall not be used for reshaping the pile but shall be reserved for application to the reshaped pile surface as final cover.

The waste pile contains scrap metal, rock bolts and other debris from mining. The contractor can encountered these materials buried within the waste rock. If such debris is uncovered during reshaping, it shall be removed and reburied within the regraded waste rock material.

RGR will provide radiological screening support to guide the contractor in assessment of soil radium content and determination of areas and depths of excavation for soil removal and for relocation of waste rock from the existing pile periphery into the final pile footprint.

If the north waste rock pile is constructed during RGR's mine operations, this section also applies to that pile as illustrated by drawings MT13-CL-11 and -12.

2.6 Construction of Soil Cover

The contractor shall submit for RGR approval a Soil Cover and Grading Plan that describes the methods for excavation, hauling, placing and compacting clean fill soil and finish grading over the mine site. The plan shall include equipment to be used, names and qualifications of key personnel, and schedule. The plan shall also include fugitive dust control and methods to verify finish line and grade control.

Soil to be used for cover on the mine water treatment ponds shall be obtained from existing clean soil in the pond berm at elevations above the final cover grades. Clean soil for the waste rock pile cover shall be obtained from the shaft muck pile at the south side of the waste pile and any other clean soil adjacent to the waste pile. Additional clean soil shall be obtained from the borrow area east of the ore pad location after contaminated soils have been removed. No soil shall be used as cover or for filling depressions that contains competent rock fragments larger than three inches.

Cover soil material may be temporarily stockpiled at the location of placement, provided that it is protected from erosion by wind or surface water.

The contractor shall place not less than 2.0 feet of clean soil as a cover over the backfilled mine water treatment ponds and the reshaped waste rock pile. Soil placed for cover construction may be spread by any method in lifts not more than 1.0 feet loose thickness. Each lift shall be tracked by dozer, CAT D8 or larger, to compact the soil before the next lift is applied. Tolerances for cover thickness may be adjusted to accommodate special circumstances, but in general the soil cover shall be not less than 2.0 feet compacted thickness.

Clean soil may also be needed for filling depressions in the areas of contaminated soil removal.

If the north waste rock pile is constructed during RGR's mine operations, this section also applies to that pile as illustrated by drawings MT13-CL-11 and -12.

2.7 Reshaping of Rock Walls and Slopes

The contractor shall reduce existing cut slopes in rock to not steeper than 1H: 1V. Existing slopes steeper than 1H: 1V include the cut slopes between the refrigeration bench (location of buildings #25-29, Drawing MT13-CL-04) and the shafts area and above the refrigeration bench. These slopes can be reduced by mechanical means; no blasting should be necessary. The contractor may achieve the required slopes by excavating the upper half of the slope and placing the excavated rock as a buttress forming the lower half of the slope. The reshaped slope surface may be left rough, resembling natural talus, to encourage rainfall infiltration and wildlife habitat.

Cut slopes capped by basalt may be exempted from the foregoing requirements if the basalt has provided protection against erosion or mass movement of the underlying slope. As an alternative to flattening a basalt-capped slope, loose or unstable rock at the top of the slope may be broken up and placed on the lower slope to form an artificial talus.

2.8 Finish Grading

All disturbed soil surfaces and constructed cover surfaces shall be finish graded to achieve the lines and grades shown on Drawings MT13-CL-07, -08, -09, -10 and -13. If the north waste rock pile is constructed during RGR's mine operations, this section also applies to that pile as illustrated by drawings MT13-CL-11 and -12. The elevation contours shown on these drawings are representational; final elevations will depend on actual quantities of contaminated soil and clean cover soil excavated and placed.

The finish-graded surface shall conform to the direction (line) and angle of slope (grade) shown on the drawings. Verification of line and grade shall be made by land surveys directed by a New Mexico License Professional Surveyor.

The finish-graded surfaces shall be free of demolition debris and depressions, ridges, rills, and other irregularities more than three inches in amplitude caused by either mining-related activities or closeout activities. On surfaces where rock will be placed for erosion protection (riprap), final grading need not achieve this standard but shall remove all irregularities of amplitude greater than the design thickness of the rock to be placed on such surfaces.

The surfaces of the disturbed areas and covers shall be bladed to provide a) smooth transitions to surrounding soil surfaces, b) gradual transitions in slope gradients, and c) free drainage of runoff (no depressions deeper than the amplitude of the surface roughness of the soil cover). On the final pass of surface grading, the grading equipment shall run along the contour of the slope, unless slope gradients are prohibitively steep, and shall blend the recontoured surfaces into adjacent undisturbed areas.

2.9 Erosion Control on Waste Rock Piles

2.9.1 General Site Drainage

The primary means of controlling erosion by runoff will be grading per section 2.8. Control of surface water runoff onto or from reclaimed areas will accomplished as part of the recontouring and final grading. Existing natural drainage courses will be preserved and improved as necessary to remove

obstacles and trapped debris. In general, runoff will be directed to natural drainage courses and will follow natural surface gradients so that no control structures or energy dissipaters will be required. New drainage courses and swales will be not less than 10 feet wide at channel bed, not less than two feet deep, with side slopes not steeper than 4H: 1V. Diversion channels will be required only where actual cover or final slope gradients produce concentrated runoff and/or slope erosion.

2.9.2 Crushing and Screening

The contractor shall collect, crush, screen, and stockpile as necessary broken concrete and rock available on site to be used for riprap. Concrete will be removed from facility demolition locations in the mine area, broken to minus 24 inch size, and stacked at the demolition locations by others. The contractor shall load and haul this broken concrete from the various stack locations on site to a crushing and screening plant to be located by the contractor near the waste rock pile.

If available quantities of sound crushed concrete, free of reinforcing bar or other non-concrete materials, are not sufficient, the contractor shall use durable rock. Suitable basalt cobbles and boulders are available within RGR property limits to the east of the mine site. The contractor may select alternative sources of comparable rock.

The contractor shall crush the broken concrete, and rock if necessary, to sizes needed for crusher fines and riprap as described in sections 2.9.3 and 2.9.4. The riprap and crusher fines shall be stockpiled separately and protected against erosion and release of fugitive dust and water-borne sediment as necessary until these materials are applied to the waste pile cover.

2.9.3 Crusher Fines

Crusher fines (0.38 inch and smaller) shall be applied to the surface of west- and south-facing slopes of the waste pile cover prior to riprap placement. The fines shall be spread at nominal 2 inches thickness over the top of the soil cover and mixed into the top lift (approximately top 0.5 feet) of the cover soil to create rock mulch. The final pass for this mixing shall be parallel to the slope contours, as required in section 2.8.

2.9.4 Riprap

On slopes of 5H:1V or steeper on waste pile surface, and where the New Mexico Mining and Minerals Division staff determine that vegetation is insufficient to control erosion, the contractor shall place broken concrete or basalt. This riprap material shall be not less than 0.5 feet thick consisting of sound fragments with d_{50} of at least 2.7 inches, maximum of 6.0 inches and minimum of 0.3 inches. Riprap shall be placed by dumping from haul trucks and spreading by dozer or grader.

The contractor shall place large broken concrete and rock (12 to 24 inches) along the north bank of the south arroyo, adjacent to the waste pile south toe. The riprap shall be placed from the toe of the north bank to not less than 10 vertical feet above the arroyo thalweg. The riprap thickness shall be not less than two times the average particle diameter and shall extend from the southwest corner of the waste pile eastward to the southeast corner of the waste pile at approximately where the arroyo crosses E 559450 (Drawing MT13-CL-09). Approximately 600 cubic yards of channel protection riprap has been estimated for this application; if suitable quantities of crushed concrete in these sizes are not available,

the contractor may harvest cobble and boulder-size basalt from the slopes east of the mine.

The contractor shall measure and record the riprap thickness not less than once every 10,000 square feet of riprap area.

2.9.5 Erosion Control Blanket

The contractor shall procure and install erosion control blanket on soil cover surfaces steeper than 10H:1V and that are not covered by riprap. The blanket material shall be biodegradable wood fiber or vegetable fiber, seed-free, woven or contained within plastic netting.

The contractor shall propose the material to RGR for approval prior to procurement. Curlex ®, Rolled Erosion Control Products, or equivalent may be considered by RGR. The blanket material shall have the following minimum properties:

- Mass - 9.2 oz/ square yard per ASTM D6475
- Thickness – 0.25 inches per ATSM D6525
- Water absorption – 300% per ASTM D1117

Alternatively, the contractor may propose other woven fabric materials, such as tobacco netting, that will provide comparable erosion protection, promote moisture retention in the cover soil, and protect seeds from birds and animals until germination.

The erosion control mat shall be installed by the contractor in coordination with revegetation by others (Specification C.5) and in accordance with the manufacturer's recommendations.

3 GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

3.1 Reviews

RGR shall meet with the contractor at the start of work each day to review the previous day's Daily Report and any deliverable from the contractor.

3.2 Daily Reports

Contractor shall prepare a written daily report of each working day. This report shall include a record of the units and quantities of work performed, events or conditions adversely affecting the work, and any deviations from the drawings or this specification necessitated by conditions encountered. This record shall be subject to review and independent verification by RGR.

3.3 Test Reports

The contractor shall measure, record and report in writing the quantities of each size of concrete and rock crushed and screened.

The contractor shall report the measured volumes, locations and thicknesses of soil, rock, and erosion control materials placed each day.

4 FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

4.1 Substantial Completion

The work will be substantially complete when all work required under sections 2 and 3 has been completed by the contractor and accepted by RGR.

4.2 Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

4.3 Final Payment

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

C.5 REVEGETATION

1 GENERAL TECHNICAL REQUIREMENTS

1.1. Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM (Drawing #MT13-CL-01). The mine site is 1/2 mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine remains on standby after mining operations were suspended in 1990 due to the depressed uranium market. The mine extracts uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot deep shafts from the mine surface. The mine surface facilities are located on 285.6 acres, of which approximately 148 acres are disturbed land and the remaining 137.9 acres are undisturbed. The disturbed land consists of:

- Support (Service and Support) Facilities
- Mine Water Treatment Area
- Treated Water Discharge Pipeline
- Ore Stockpile
- Waste Pile
- Storm Water Retention Ponds (2)
- Access Road

The included work consists of providing the equipment, personnel and materials for revegetation of the mine site and pipeline corridor after demolition and earthwork have been performed by others.

The required work includes:

- Mobilization and demobilization of contractor's equipment,
- Preparation of the work area,
- Preparation of disturbed soil surfaces for reseeding, including application of amendments and mulch.
- Reseeding of the disturbed soil areas
- Installing or replacing fencing needed to limit access to revegetation areas.

The work is represented in Drawings:

MT13-CL-01 Title Sheet

MT13-CL-02 Closeout Plan Index Sheet

MT13-CL-07 Final Grading Plan Mine Water Treatment Pond and Ore Stockpile Area

MT13-CL-09 Final Grading and Cover Plan South Waste Rock Pile Area

MT13-CL-13 Final Site Grading Plan

and in Figure C.5-1.

All areas that have been disturbed by Mt. Taylor mining operations and soil cleanup, approximately 117 acres, shall be revegetated except the storm water pond and those areas where mining-related features, such as buildings and roads, are retained at the request of the surface owner. Regraded areas, the waste rock pile, the ore stockpile area, mine water treatment pond area, the treated water pipeline corridor, and locations of demolished facilities shall be revegetated.

Preparations for revegetation and the selected seed mix will be directed toward establishing a vegetation community that can thrive at this site and that can support grazing of livestock. Plants native to the general area shall be used as much as possible to provide for long-term stability of the soils and vegetation communities. Plant species that provide rapid initial cover shall be used in the seed mix to achieve initial soil stabilization. Species selected will not necessarily be found in the surrounding undisturbed area, but shall have been approved for use in reclamation by the Natural Resources Conservation Service (NRCS) and other appropriate government agencies.

1.2. Site Survey

The contractor shall perform its own survey to determine soil properties and site conditions that will affect revegetation efforts, native and other existing vegetation in the area, and any conditions that appear to differ from those represented in this specification and accompanying information provided by RGR. The results of this site survey shall be submitted to the Project Manager for review and approval of work performed and for verification of payment quantities.

1.3. Site Restrictions

Access to the site is limited to ingress/ egress through the main gate. All contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

1.4. Work Performed by Others

Prior to the commencement of this work, the shaft headframes, hydraulic control structures, selected buildings, the treated water pipeline, mine car rail, and mine water discharge pipe will be removed and the shafts will be plugged and backfilled by others. Earthwork to backfill mine water treatment ponds, reshape the waste rock pile, place cover soil over the ponds and waste pile, erosion protection, and final grading will be performed by others.

1.5. Codes, Standards, and Regulatory Requirements

All work must be performed according to OSHA and/ or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

1.6. Site Investigation Reports & Data

RGR has conducted site investigations to characterize the waste rock pile materials, soil contamination, and geotechnical properties of on-site soil. Reports of these studies and related data are included in Appendix D of the Mt. Taylor Mine Closeout/ Closure Plan.

1.7. Health & Safety Practices

1.7.1. Health & Safety Practices

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Site Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, Level D PSE is required. In addition, safety measures required under section 1.5 and elsewhere in federal and state regulations shall be implemented.

All contractor personnel and others within the contractor's working area must be equipped with the required PSE and must comply with the requirements cited in section 1.5.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove from the contractor's working area anyone not complying with those requirements.

1.7.2. Site Safety & Emergency Communication

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. Cell phone service is not reliable at the mine site.

1.7.3. Radiological Materials

Radiological contamination levels on the mine site do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

1.8. Field Engineering and Surveying

The contractor shall perform surveys and measurements as required under section 1.2 to verify dimensions, lines and grades, and revegetation materials described in this specification and the referenced drawings (MT13-CL series).

1.9. General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer
- Revegetation Plan – Methods, soil amendments and mulches, and seed mixes to be used for revegetation. The plan shall also describe equipment to be used, names and qualifications of key personnel, and schedule.

1.10. Construction Facilities and Field Office

1.10.1. Site Access, Field Office, Storage, and Maintenance

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Coop**.**

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

1.10.2. Protection of Existing Facilities

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use (Drawing MT13-CL-04). Any damage or loss of use shall be repaired or compensated at the contractor's cost.

1.10.3. Temporary Environmental Controls

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to,

- Spraying of clean water for dust suppression
- Storage of fuels, solvents and lubricants
- Surface water diversions and erosion control materials
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife.

No firearms may be brought on the mine site.

2 SITE CONSTRUCTION

2.1 Site Preparation

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations.

2.2 Runoff Control

During the revegetation period temporary runoff controls will be used as necessary to impede or divert rainfall and snowmelt runoff from revegetated areas. Locations of temporary runoff controls shall be selected by the contractor to retard or divert runoff, trap sediment, and provide improved conditions for germination and plant establishment.

Runoff control during revegetation shall utilize the most appropriate technology available at that time, including methods recognized by the NRCS or the International Association for Erosion Control. Measures that use present technology include check dams constructed of hay bales, geotextile silt fences secured in shallow trenches, and water bars across the disturbed area and perpendicular to the slope. Tobacco net, Curlex or similar net-and-fiber mats might be used as required for protection of surfaces susceptible to rilling or wind erosion. The specific measures applied to revegetated surfaces shall be selected by the contractor based on the method most appropriate for the seeding method, erodibility and depth of the soils, degree of slope, proportion of large rocks at the surface, roughness of the surface, and anticipated rainfall

2.3 Seed-Bed Preparation and Seeding

Revegetation of the recontoured areas will employ a variety of methods, depending principally on the steepness of the slope. A large percentage of the total disturbed area will be revegetated using standard mine reclamation equipment; i.e., tracked and wheeled tractors, rangeland seed drill, and mulch applicator. In areas with slopes of 3H:1V or steeper (natural or cut slopes east of the shafts), a mixture of manual and mechanical application techniques will be used, including hand broadcasting and heavy chains dragged by a tracked dozer to incorporate the seed with the soil. When applying seed with a seed drill, the contractor shall follow the ground contours as much as possible in order to minimize the development of rills. The contractor shall prepare surfaces for seeding by scarifying, as necessary, the surface finish-graded by others and by creating minor depressions to provide a proper seed bed. Seed shall then be applied by either rangeland drill or broadcast. Broadcast seed shall be incorporated into

the growth medium by hand raking or some mechanical means such as heavy chains dragged behind tracked dozers. The disturbed surfaces shall be reseeded using the seed mix described in Table C.5.1. The method of reseeding shall be determined according to location and size of area to be reseeded. In general, drill seeding shall be used on flatter slopes covering larger areas. Broadcast seeding shall be used on shorter, steeper slopes. Hand seeding may be required on longer or very steep slopes.

2.4 Revegetation Species

The predominant native grass species in the area is blue grama (NMEI, 1974). Therefore, this species shall be the primary species in the revegetation seed mix if it is readily and economically available at the time of closeout. A species mix previously approved for use at the Mt. Taylor Mine is listed in Table C.5.1. Several cool-season and warm-season grass and shrub species are proposed in this plan to reestablish species that have been severely impacted by grazing and to optimize the chances for successful germination and establishment, regardless of the particular microclimate.

Other species in the mix may be selected or substituted on the basis of their suitability for the terrain and climate, compatibility with native species and nutrient value to livestock. If the contractor proposes other species, additional factors in the selection of species shall include (1) likelihood of becoming a "pest" species in the area, (2) ability to achieve quick cover with a minimum of care and moisture, (3) strength of their root system for stabilizing the soil, and (4) ability to act as a nurse crop for the later establishment of local grasses, shrubs and forbs.

2.5 Seed Origin and Quality

Seed shall be harvested from native stands within 200 miles north, 300 miles south, 200 miles west, and 100 miles east of Mt. Taylor. If seed from native stands is not available, seed of suitable quality grown under appropriate conditions, or seed of released cultivars known to be adapted to the San Mateo area, shall be used. All seed must be certified, and each seed bag must have attached to it a complete label with certification information.

2.6 Mulching

After seeding of the soil surface, that surface shall be mulched to slow runoff and provide temporary protection to newly emergent vegetation. Mulching in most cases will be accomplished by a mulch blower and crimped by a tracked dozer. Alternatively, the mulch may be tracked into the soil surface with a dozer, crimped by mechanical crimper, or crimped by hand. If hand application of mulch is required, crimping will be accomplished by hand as well.

Hay mulch will be acceptable, but other mulch types may also be used with prior approval. To reduce the likelihood of introducing small grain species to the area, native grass hay shall be used. Blue grama or similar hay may be available locally and would be preferable since its use would likely provide additional seed source to the revegetated areas. Alfalfa *(Medicago sativa)* shall be used if native grass hay is unavailable or impractical. Hay mulch shall be spread by means of a blower, or by hand on steep slopes, applied at a rate of approximately 1-2.5 ton per acre.

Chipped vegetation may be used as mulch, with approval, after it has been aged. The amount of aging needed to make the chipped vegetation suitable for mulch shall be determined by field observations covering sufficient periods of time to determine aging requirements under the conditions prevailing at the site. Where rock (crusher fines) will be placed over the soil cover, actual organic mulch may be reduced to 80% of the amount that would be needed without rock.

2.7 Fencing

Upon completion of mulching, the contractor replace fence that was damaged or had to be removed for revegetation. The contractor shall also install 2 ¼ inch mesh chain link fences, eight feet high, to enclose the Mine Water Treatment Area and the waste rock pile(s). An additional 2000 feet of this fence shall be installed around the mine shafts area (#9 under Area Description in Drawing MT13-CL-02) to prevent entry to the shaft areas. Each fenced area shall have one hinged 12-feet wide gate. The materials and construction shall conform to RR-F-191/1D: FEDERAL SPECIFICATION RR-F-191K/GEN. FENCING, WIRE AND POST, METAL .

2.8 Monitoring

Monitoring of revegetated areas shall be conducted on a periodic basis to assess revegetation success against an interim standard (section 2.9). Success of both germination and establishment will be dependent in large part on the moisture received in the summer and winter months and variations from year to year. Monitoring activities shall be designed and scheduled to recognize this.

An annual survey of the revegetated areas shall be conducted to determine species composition and vegetation cover, frequency and density. Since establishment of vegetation is a function of its ability to reproduce, vegetation shall also be assessed for its reproductive status, as well as its overall vigor. The annual survey shall be conducted toward the end of the growing season, no later than October or early November by a botanist or other qualified vegetation specialist. Survey results shall be analyzed and summarized to aid in determining the need for any changes in management practices or the need for reseeding or other supplementary practices.

Less formal monitoring shall be conducted through the year by RGR personnel to identify conditions in the revegetated areas that may require attention.

2.9 Revegetation Success

An interim technical standard based on range site descriptions has been proposed and is described in Table C.5.2. Range site descriptions were obtained from the Natural Resource Conservation Service (NRCS, 1980) for soil mapping units existing on the mine site. This standard will remain in effect until either the volunteer revegetation success is determined to support a higher standard or a test plot program has produced acceptable results that support a more site-specific standard.

3 GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

3.1 Reviews

RGR shall meet with the contractor at the start of work each day to review the previous day's Daily Report and any deliverable from the contractor.

3.2 Daily Reports

Contractor shall prepare a written daily report of each working day. This report shall include a record of the units and quantities of work performed, events or conditions adversely affecting the work, and any deviations from the drawings or this specification necessitated by conditions encountered. This record shall be subject to review and independent verification by RGR.

3.3 Test Reports

The contractor shall submit certifications from the vendor for all seed to be applied.

The contractor shall conduct and report the results of the annual survey for each year until the New Mexico MMD has determined that the vegetation success standards have been met. These standards will be determined in consultation with the contractor, RGR, and MMD.

4 FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

4.1 Substantial Completion

The work will be substantially complete when all work required under sections 2 and 3 has been completed by the contractor and accepted by RGR.

4.2 Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

4.3 Final Payment

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

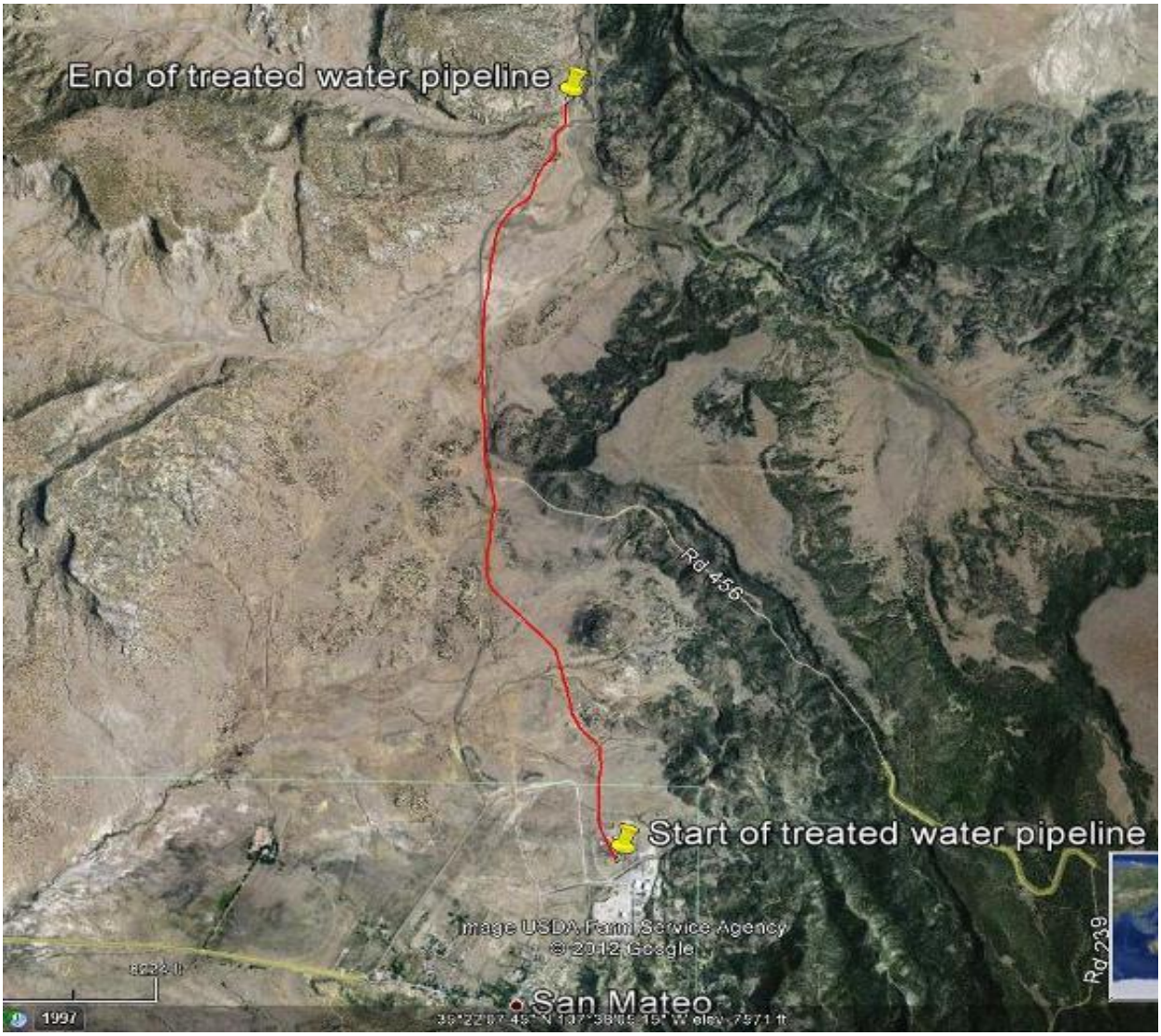

Figure C.5-1 Treated Water Pipeline

TABLE C.5.1

SEED MIX: SELECTED SPECIES AND PLANTING RATES

1. Western wheatgrass *(Agropyron smithii)* Rate: 6 PLS/ft^2
   Cool season native perennial grass, reproduces from seeds and rhizomes, growth starts when daytime temperatures reach 12-13 C, grows in dry, rocky soils.
2. Winterfat *(Ceratoides /anata)** Rate: 2 PLSlft^2
3. Blue grama *(Boute/oua gracilis)** Rate: 6.0 PLSlft^2
   Warm season native perennial grass, reproduces from seed, tillers, and rhizomes, growth starts May- June, grows on rock slopes.
4. Galleta *(Hilaria jamesii)* Rate: 6 PLSlft^2
5. *Alkali Sacaton (Sporobolus airoides)* Rate: 6 PLSlft^2
6. Mountain mahogany *(Cercocarpus montanus)* Rate: 2 PLSlft^2
7. Fourwing saltbush *(Atriplex canescens)* Rate: 2 PLSlft^2
   Evergreen native perennial shrub, reproduces from seeds, grows on grassy uplands, excellent reclamation species.
8. Globemallow *(Sphaeralcea fend/en)* Rate: 2 PLS/ft^2
9. Narrowleaf Penstemon *(Penstemon angustifo/ia)* Rate: 2 PLS!ft^2
10. New Mexican feathergrass *(Stipa neomexicana)* Rate: 6 PLSlft^2
    Cool season native perennial grass, reproduces by seed and tillers, growth starts mid-spring, grows on rocky slopes.
11. Yellow Sweet Clover (Melilotus) Rate: 0.5 Ibs/acre
12. Spring wildflower mix

* black grama may be substituted for these species. Other variations and substitutions may be made based on cost and availability of seed at the time of closeout.

Seed origin and quality specifications: Seed should be harvested from native stands within 200 miles north, 300 miles south, 200 miles west and 100 miles east of Mt. Taylor. If seed from native stands is not available, seed of suitable quality grown under appropriate conditions or seed of released cultivars known to be adapted to the San Mateo area may be used. All seed must be certified, and each seed bag must have attached to it a complete label with certification information.

TABLE C.5.2

INTERIM REVEGETATION SUCCESS STANDARDS

MT. TAYLOR MINE CLOSEOUT PLAN

POTENTIAL PLANT COMMUNITY FROM NRCS RANGE SITE DESCRIPTIONS

Section IIE, Technical Guide

Natural Plant Species	Percentage of Potential Production		
	Clayey Bottomland Mapping Unit 257	Bottomland Mapping Unit 57	Average
Western Wheatgrass	35-45	20-30	32
Alkali Sacaton	5-10	30-40	21
Vine Mesquite	10-15	1-5	7
Blue Grama, Spike Mulhy, Galleta	15-25	10-15	16
Bottlebrush Squirreltail	1-3	1-5	2
Fourwing Saltbush	3-10	3-10	6
Winterfa	1-3		2
Rabbitbush, Broom Snakeweed	1-5	1-5	3
Forbs	3-8	1-5	4
others	1	9	5
Ground Cover, %	50	55	52
Production, Ib./acre	1250-3200	1200-3000	2162

PROPOSED INTERIM STANDARDS

Plant Species	Percentage of Production	Standard
Western Wheatgrass	32	20-45
Alkali Sacaton	20	5-40
New Mexican Feathergrass	20	10-30
Blue Grama, Spike Mulhy, Galleta	16	10-25
Fourwing Saltbush	6	3-10
Winte	2	1-3
Mountain Mahogany	1	0-5
Globemallow	1	0-5
Narrowleaf Penstemon	1	0-5
other	1	0-10
Ground Cover, --- 70% of potential		
Production, Ib./acre --- 50% of potential		

Variations and substitutions may be made in the seed mix, based on seed availability and cost at time of closeout.

C.6 WELL AND CONDUIT PLUGGING

1 GENERAL TECHNICAL REQUIREMENTS

1.1. Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM (Drawing #MT13-CL-01). The mine site is 1/2 mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine remains on standby after mining operations were suspended in 1990 due to the depressed uranium market. The mine extracts uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot deep shafts from the mine surface

The included work consists of providing the equipment, personnel and materials for plugging water wells and utility conduits to depths of more than 3000 feet. The required work includes:

- Mobilization and demobilization of contractor's equipment,
- Preparation of the work area,
- Tremie grouting of 16 deep (>2000 feet) wells
- Tremie grouting of shallow abatement monitoring wells
- Shallow plugging of two utility conduits.

The work is represented in Drawings:

MT13-CL-01 Title Sheet

MT13-CL-02 Closeout Plan Index Sheet

1.2. Site Survey

The Contractor shall perform its own survey to determine access to wells and water.

1.3. Site Restrictions

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

1.4. Work Performed by Others

Not applicable.

1.5. Codes, Standards, and Regulatory Requirements

All work must be performed according to OSHA and/ or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

1.6. Site Investigation Reports & Data

Not applicable.

1.7. Health & Safety Practices

1.7.1. Health & Safety Practices

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Site Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, Level D PSE is required. In addition, safety measures required under section 1.5 and elsewhere in federal and state regulations shall be implemented.

All contractor personnel and others within the contractor' working area must be equipped with the required PSE and must comply with the requirements cited in section 1.5.

1.7.2. Site Safety & Emergency Communication

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line or mobile phone at all times. Cell phone service is not reliable at the mine site.

1.7.3. Radiological Materials

Radiological contamination levels on the mine site do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

1.8. Field Engineering and Surveying

Not applicable.

1.9. General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer
- Well Plugging Plan – Equipment, methods, and materials to be used for well and conduit plugging. The plan shall also describe names and qualifications of key personnel, and schedule for performance of the work. This plan shall be submitted for approval by the State Engineer before well plugging begins.

1.10. Construction Facilities and Field Office

1.10.1. Site Access, Field Office, Storage, and Maintenance

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Co-op.

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

1.10.2. Protection of Existing Facilities

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use (Drawing MT13-CL-04). Any damage or loss of use shall be repaired or compensated at the contractor's cost.

1.10.3. Temporary Environmental Controls

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to,

- Spraying of clean water for dust suppression
- Storage of fuels, solvents and lubricants
- Surface water diversions and erosion control materials
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife.

No firearms may be brought on the mine site.

2 SITE CONSTRUCTION

2.1 Site Preparation

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations.

2.2 Utility Conduit Plugging

Two vertical utility conduits, 11.5-inch diameter steel casings extending from ground surface to mine level, shall be plugged. A concrete plug shall be placed from 18 feet depth to two feet below ground surface. The top two feet of casing shall be removed and the remaining hole shall be backfilled with soil.

2.3 Well Plugging

The contractor shall plug the 16 deep wells listed on Table C.6.1. Each of these shall be grouted from bottom of casing to ground surface using tremie methods as required by 19.27.4.NMAC. The grout mix shall be 4:1 cement to bentonite; however, the contractor may propose an alternative mix that will develop at least equal properties when solidified.

Grouting shall be continuous in each well until the well casing is filled to ground surface. Before the contractor leaves the site at the completion of all well plugging, it shall inspect each well not sooner than 24 hours after the tremie filling of each well is complete. The contractor shall top off any casing that does not have a solid column of grout to ground surface.

2.4 Abatement Monitoring Well Plugging

Up to five shallow monitoring wells may remain at the time of closeout, These 2-4 inch diameter wells with PVC casing are used during the NMED Stage 2 Abatement Plan to observe shallow perched water at the soil/ bedrock interface at depths up to 60 feet below and west of the waste rock pile. One or more of these wells will probably be decommissioned and plugged prior to mine site closure; those that remain shall be plugged using the same methods and materials used for the deep wells.

3 GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

3.1 Reviews

RGR shall meet with the contractor at the start of work each day to review the previous day's Daily Report and any deliverable from the contractor.

3.2 Reports

Contractor shall prepare a written report documenting the plugging of each well in a form acceptable to the State Engineer. This report shall include a record of the units and quantities of work performed, events or conditions adversely affecting the work, and certification by a licensed well driller that all requirements of 19.27.4 NMAC have been satisfied. This record shall be subject to review and independent verification by RGR.

3.3 Test Reports

Not applicable.

4 FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

4.1 Substantial Completion

The work will be substantially complete when all work required under sections 2 and 3 has been completed by the contractor and accepted by RGR.

4.2 Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

4.3 Final Payment

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

Table C.6.1 Wells and Conduits to Plug

Well No.	State Plane Coordinates		Collar Elevation, Feet AMSL	Depth (feet)	Casing/liner Size
	x	y			
2	59854	1579494	7335	2920	9 5/8" casing
9	560230	1580089	7333	2845	9 5/8" casing
11	560493	1579216	7442	3028	9 5/8" casing
12	560689	1579790	7414	2940	9 5/8" casing
13	559315	1579749	7317	3815	10 3/4" casing , 7" liner
14	559431	1579218	7331	3205	10 3/4" casing , 7" liner
15	559750	1578861	7339	3205	10 3/4" casing , 7" liner
16	560247	1578702	7388	3275	10 3/4" casing , 7" liner
17	560813	1578942	7492	3342	10 3/4" casing , 7" liner
18	561030	1579275	7495	3314	10 3/4" casing , 7" liner
19	561030	1579863	7449	3274	10 3/4" casing , 7" liner
20	560754	1580315	7381	3223	10 3/4" casing , 7" liner
21	560216	1580535	7316	3184	10 3/4" casing , 7" liner
22	559711	1580269	7302	3195	10 3/4" casing , 7" liner
SM-24-38	560231	1579458	7390	3535	10 3/4" casing , 7" liner
SM-24-43	560258	1579501	7347	3535	10 3/4" casing , 7" liner

Mine Utility Conduits (2) - on refrigeration bench

Steel casings, 11.5 inches diameter, shall be plugged with concrete from 18 feet depth to 2.0 feet below grade. Top 2.0 feet of casing to be removed, and remaining hole shall be backfilled with soil.